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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,583	03/30/2001	Vuong kim Le	50019.37US01/PO4891	6861

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Minneapolis, MN 55402-0903

EXAMINER
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TSE, YOUNG TOI

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/823,583	LE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	YOUNG T. TSE	2637	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 March 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 12, 23 and 32-36 is/are rejected.
- 7) ☒ Claim(s) 5, 7-11, 13-22, 24-31, 37 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>070201</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.

2. The disclosure is objected to because of the following informalities: on page 6, line 25, "(IN)" should be "(IN),"; on page 8, line 3, "logic" should be "logic (160)"; on page 14, line 21, "outputs" should be "output"; on page 19, line 8, "DWN and T3\_SIG signals" should be "DWN, T3\_SIG, and RESET signals"; on page 20, line 31, "DWN and T3\_SIG signals" should be "DWN, T3\_SIG, and RESET signals". Appropriate correction is required.

### ***Claim Objections***

3. Claims 1-38 are objected to because of the following informalities:

In claim 1 (lines 5 and 16); claim 2 (lines 1 and 2 (both occurrences)); claim 13 (lines 3 and 5); claim 16 (line 6); claim 20 (line 3); claim 21 (line 3 (both occurrences)); and claim 22 (lines 5 and 13); "equalizer" and "comparator" should be changed to "equalizer circuit" and "comparator circuit".

In claim 8, line 6, "level signal, the comparator output signal is the first logic level when" appears to read "level signal and".

In line 7 of both claim 14 and claim 15, "the digital logic circuit" should be "the digital control logic circuit".

In claim 20, line 7, "the logic pulse" should be "the first logic pulse".

In claim 1, line 1, "an input signal" should be "an input signal by an equalizer" to avoid the antecedent basis of "the equalizer" recited in line 14 and line 14, "a persistent" should be "the persistent".

In line 8 of both claim 27 and claim 28, "indicates" should be "indicate".

In claim 29, line 1, "Claim 26" should be "Claim 27".

In claim 30, line 1, "Claim 27" should be "Claim 28".

In claim 31, lines 4 and 11, "setting" should be "settings" and line 8, "the second" should be "a second".

In claim 33, lines 8-9, "the comparator output to produce the first sample point and the second sample point" should be "the comparator output signal to produce a first sample point and a second sample point".

In line 1 of both claim 37 and claim 38, "Claim 33" should be "Claim 35" to avoid the antecedent basis of "the under-shoot condition" and "the over-shoot condition".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 32 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The configuration of claim 32 does not correspond to the disclosure of the drawings and fail to explain in the specification.

Claim 32 recites the adjustment of other equalization settings of another equalizer. However, only one equalizer 110 or 210 is shown in Figure 1 and Figure 2. The specification also fails to discuss another equalizer for other equalization settings as recited in claim 32.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, 6, 12, 23, and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Gersbach et al..

Gersbach et al. (U.S. Patent No. 5,293,405) discloses an adaptive equalization and regeneration system 10 in Figure 1.

With respect to claims 1, 23 and 33, the adaptive equalization and regeneration system 10 comprises an equalizer 20 which corresponds to the equalizer circuit to produce an equalized signal to a peak detector 26, a regenerator 22, and an DPLL 24 of a received signal through an VGA 18; the DPLL 24 corresponds to the data slicer to

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convert the equalized signal into digital signal; the peak detector 26 corresponds to the comparator circuit to compare the equalized signal with a peak level signal (col. 5, lines 54-58 and col. 6, lines 28-31); a set new min or max 30 corresponds to the sampling circuit for sampling the detected teak signal of the peak detector 26 (col. 6, lines 49-57); and an amplitude calculator 32, a time calculator 34, and a logic circuit 40 together correspond to the digital control logic circuit for controlling the characteristic of the equalizer 20 based on the calculation condition(s) of the calculators 32 and 34 (col. 7, lines 11-19 as recited in claim 1. The method claim 23 and another apparatus claim 33 recite the similar claim subject matter of claim 1.

With respect to claim 2, the characteristic of the equalizer is a gain of the equalizer is described in col. 7, lines 29-33.

With respect to claim 3, the equalizer is a high pass filter is well known to a person skill in the art as mentioned in the background of the invention on page 1, paragraph 4 of the instant application.

With respect to claim 4, the equalizer settings can be either the control gains controlled by the VGA 18 or the calculation parameters of the amplitude and time calculated by the calculators 32 and 34.

With respect to claim 6, the comparator circuit is a peak detector 26.

With respect to claim 12, the equalizer control signal is based at least by a continuous time and a periodic time interval by the time calculator 34.

With respect to claims 34-36, the sampling points, the under-amplitude or shoot and the over-amplitude or shoot are shown in the waveforms of Figures 2A and 2 B

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which show an L level, a threshold, an U level or time interval over which signal can be sampled.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gersbach et al. in view of Buhler et al..

Although Gersbach does not show the detailed embodiment of the equalizer 20 and the peak detector 26 that the equalizer is capable of equalizing a differential received signal to produce a differential output signal and the peak detector for

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detecting the differential output signal of the equalizer to control the control signal of the equalizer.

Buhler et al. (U.S. Patent No. 4,346,411) discloses an analogous equalizer art in Figure 2 which comprising an equalizer 22 and a peak detector 26. Figure 3 shows the detailed embodiment of the peak detector which clearly includes two comparators 36 and 38 for detecting the differential output signal of the equalizer 22 with the peak voltage used to control the characteristic of the equalizer, for example, by an VGA 21.

Therefore, it would have been obvious to one of ordinary skill in the art to use a differential equalizer and a differential peak detector in Gersbach's regular equalizer and peak detector in order to generate a control signal of the equalizer from a differential equalizer signal and a differential peak detected signal.

### ***Allowable Subject Matter***

11. Claims 5, 8-11, 13-22, 24-31 and 37-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: Nagaraj et al., Hee et al., Hoyd et al., and Fujita et al. are related to an equalization circuit including a control circuit for controlling the characteristic of an equalizer. However, the prior art fails to show or suggest that the control circuit of the equalization circuit also includes an amplitude control circuit to control the amplitude of a peak detector.

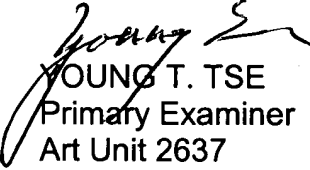


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday and Wednesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
YOUNG T. TSE  
Primary Examiner  
Art Unit 2637